

THE GREAT YARMOUTH
URBAN AND PORT SANITARY
AUTHORITY.



THE
ANNUAL REPORT
OF THE
Medical Officer of Health,
FOR 1903.

GREAT YARMOUTH:
THE GREAT YARMOUTH PRINTING COMPANY, LIMITED.
1904.

TOWN HALL,
GREAT YARMOUTH,

1904.

*To the Mayor, Aldermen, and Councillors of the County
Borough of Great Yarmouth.*

GENTLEMEN,

Owing to the death of your late Medical Officer of Health in November last year, the information in this Annual Report is limited to an analysis of the vital and other sanitary statistics of the past year. Any comment on the tables of sickness and mortality which I have prepared would be out of place and possibly misleading, as my experience of local sanitary conditions is very recent and I have no personal knowledge of the events recorded in the year under review.

The total number of Deaths registered in the Borough in 1903, was 960. Excluding 36 deaths of Non-Residents, occurring in Public Institutions, the Net Death Rate comes to 17·8 per thousand of the population per annum, taking the number of residents as 51,851. This is a higher death-rate than that recorded in 1902, but it is lower than the average for the past ten years.

1426 births were registered, producing a birth-rate of 27·5 per thousand per annum, a rate which is lower than the average for the past ten years and also somewhat lower than the average rate for the 76 great towns of England and Wales.

The Infantile Death Rate stands at the very low figure of 121 per thousand of the births registered during the year. This is a most satisfactory feature of this Report, as not only is it the lowest infantile death rate recorded in the

Borough, but it is 23 lower than that for the 76 great towns, and 11 lower than the average for the whole of England and Wales, including the country districts where the chances of infantile survival are so much more favourable than they are in an urban district.

The Zymotic Death Rate is higher than it was in 1902, but lower than the average for the past ten years. The notifications of cases of Scarlet Fever and Diphtheria showed an increase on the figures of last year. The notifications of Typhoid Fever were reduced, an annual reduction which appears to have been steadily progressing since 1898.

The water supplied by the Great Yarmouth Water Company was not examined on behalf of the Corporation during 1903, but the public interest in the water supply is so great that I have included in this Report the results of examinations made during the last few weeks. It appears that the present supply of filtered water is not only good but is absolutely free from all sewage borne organisms.

The work of Sanitary Inspection by your staff of Inspectors seems to have been well up to the average of previous years. The routine work of the sanitary department is being constantly increased by legislation and much useful work is done by female health-visitors in other towns, especially under the Factory and Workshops Act. At present you have no female health-visitor, but I hope you will sanction the appointment of one before next year, when the Midwives Act will come into force, an Act which will entail a considerable amount of inspection if it is to be effective.

The Small-Pox Hospital at Gorleston has not been occupied during the year owing to the complete absence of the disease, but the Isolation Hospital in Estcourt Road has been full for months at a time. Five hundred and

thirty-one patients have been treated during the year, and nearly 70% of the notified cases of Scarlet Fever, Diphtheria and Typhoid Fever have been isolated in the Hospital.

The Medical Officer to the Local Government Board has recently issued a Memorandum as to Annual Reports of Medical Officers of Health, in which he asks for detailed information, under nine specific headings, on various subjects, which may influence the public health. This information is not forthcoming at present for the reasons I have mentioned, but it will be collected for future annual reports.

I am, Gentlemen,

Your obedient servant,

H. W. BEACH,

Medical Officer of Health.

REPORT.

Statistical Summary for the year 1903 :

GENERAL STATISTICS.

Area of District in acres (excluding area covered water)	3,566
Population estimated by the Registrar-General middle of 1903	51,851
Number of persons to the acre	14'5
Estimated number of inhabited houses	12,346
Assessable Value of District	£219,417
Product of a Penny General District Rate (4s. 1d. in the £)	£786
Product of a Penny in all other rates (3s. 8d. in the £)	£813
Total Revenue	£119,724
Net Indebtedness, Loans &c.	£325,386

VITAL STATISTICS.

Births registered during the year (average for years 1893-1902, 1441)	1426
Birth-rate (average 28'45)	27'5
Total number of deaths registered during the year	960
Deaths of Non-Residents in Public Institutions	36
Nett deaths of Residents (average 931)	924
Death rate per thousand per annum (average 18'37)	17'82
Deaths of Infants under one year (average 248)	173
Infantile death-rate per thousand births registered (average 172)	121
Death-rate from Zymotic Diseases (average 2'74)	2'5

AREA.

The total Area in Acres is 3,566, Gorleston and Southtown occupying 2,148 acres, the Northern District 895, the Southern District 479, and Runham Vauxhall 44 acres.

POPULATION OF THE WHOLE BOROUGH.

The Registrar-General's estimates of the population of the whole Borough for the middle of 1903 is 51,851. This number is probably correct to a few hundred, as there is not much scope for error in the time which has elapsed since the last census in 1901. Naturally the possibility of error becomes greater the further the census year is removed from the year in which the population is estimated; this is very noticeable in recent Annual Reports, in which the populations in the years immediately preceding the last census were very considerably over-estimated, (in 1889 more than two thousand in excess). This error was not due to any mathematical mis-calculation but to emigration which could not be discovered until the census, when it was found that more than two thousand persons had left the Borough during the ten years preceding 1901. This error will be unavoidable until the census is taken at shorter intervals, and we can work on the basis of a triennial or, at least, a quinquennial enumeration of the actual population. Using the additional information obtained at the last census, the populations given in Tables I and II of this Report have been re-calculated, as some of the more important vital statistics depend on the comparative accuracy of the number estimated as the population.

POPULATION OF THE DIFFERENT LOCALITIES.

The estimated populations of the different localities of the Borough are:—

Northern District	...	...	19,835
Southern District	...	...	15,468
Gorleston and Southtown	...	...	15,934
Runham (Vauxhall)	...	...	614

Although the populations of the different localities of the Borough are calculated by the method which has been used in estimating the population of the whole Borough, the possibilities of error are greater, as the numbers are much smaller, and the census enumerations in 1891 and 1901 are not so strictly comparable owing to changes in the areas of two of the principal districts in 1894. The Borough Surveyor has kindly furnished me with a return of the number of *dwelling* houses, built in the various districts since the last census. This supports, to some extent, the purely mathematical estimate of the respective populations—569 houses have been built in that time, 349 in the Gorleston and Southtown district, 247 in the Northern District, and only 25 in the Southern District.

The dwellings in the Southern District are, in most cases, replacements of demolished houses and the mathematical calculation of a constant annual decrease in the population of that District is almost certainly correct. The new dwellings in the Northern District are, in some cases, replacements, as in the Southern District and there is also a fairly continuous absorption of dwelling houses in the Rows for purely business purposes, but the number of new dwelling houses is so considerable that the calculated estimate of a stationary population is certainly under the truth. In the Gorleston District the new dwellings are in nearly every case built on fresh sites and afford accommodation for the largely increased population of that district.

BIRTHS.

The number of Births registered during the year was 1,426, which gives a Birth-rate of only 27·5 per thousand of the estimated population. The Birth-rate is falling all over the Country; but the rate in Great Yarmouth is lower than the average for the other 75 great towns.

The Births assigned to the different localities were:—

Northern District	...	496
Southern District	...	431
Gorleston and Southtown	...	471
Runham Vauxhall	...	28

85 Births were registered as illegitimate and are included in the totals.

DEATHS.

The total number of Deaths registered in the Borough was 960. Seventeen of these deaths were those of non-residents dying in the Royal Naval Asylum ; seven strangers died in the Workhouse Infirmary, eight in the General Hospital, two in the Isolation Hospital, and two in the Gorleston Cottage Hospital. Deducting the 36 deaths of non-residents, we get a nett total of 924 deaths, or a nett death-rate of 17·8 per thousand of population as compared with 16·3 for the 76 great towns and 15·4 for the whole of England and Wales. The Death-rate is lower than the average for the past ten years, but is 1·2 higher than it was in 1902. Fourteen non-residents died during the year in the Borough in private houses, and this number has to be included in the tables submitted to the Local Government Board, as the official statistics must include all deaths except those of non-residents dying in Public Institutions. So far as the number of deaths is concerned, this loss of 14 lives is probably more than balanced by the number of residents of Great Yarmouth who have died outside the Borough, but the causes of death were of an undesirable character, four being certified as due to Phthisis, one to Respiratory Disease, six to Drowning, one to Delirium Tremens and only two to general causes.

DEATHS IN PUBLIC INSTITUTIONS.

Two-hundred-and-forty-four deaths occurred in Public Institutions: 117 in the Workhouse Infirmary, 57 in the General Hospital, 49 in the Isolation Hospital, 17 in the Royal Naval Asylum, and four in the Gorleston Cottage Hospital.

Excluding the deaths of 36 non-residents, the number of residents dying in Public Institutions was 208, in other words two out of nine residents passed their last days away from their homes. This is an unusually high proportion—more than 70% above the average for the past ten years—for which no satisfactory explanation is forthcoming.

DISTRIBUTION OF DEATHS ACCORDING TO AGE AT DEATH.

Of the total number of deaths more than 60% occurred during infancy or old age; 6% occurred during the school age (5-15) and the remainder during the fifty years of working life.

INFANTILE MORTALITY.

One-hundred-and-seventy-three children under the age of twelve months died in 1903, producing an infantile death-rate of 121 per thousand births registered during the year. This rate compares most favourably with the average rate for the past ten years, with the result that, despite the diminishing Birth-rate, the actual number of children surviving the first year of life is considerably increased. The rainy summer will account for a part of this reduction in the loss of infant life; but it should be noted that the infantile death-rate in the 76 great towns was 144 and the rate for the whole of England and Wales was 132, so that the reduction in Great Yarmouth was not entirely due to causes which affected the rest of the country.

Among the most important causes of deaths in Infants, Premature Death was the assigned cause in 38 cases, Congenital Debility or Malformation accounted for 32 deaths, Digestive disorders, including Diarrhœa, caused 40 deaths, 12 were due to various forms of Tuberculous Disease, 19 to Respiratory Disease, 4 to Measles and 3 to other Zymotic Diseases.

The deaths of legitimate children were at the rate of 117 per thousand births registered, while the illegitimate died at the rate of 188 per thousand.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1903 AND PREVIOUS YEARS.

YEAR.	Population estimated to middle of each year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT	
				Under 1 year of age.		At all ages.					No.	Rate.*
		No.	Rate.*	No.	Rate per 1000 Births registered.	No.	Rate.*						No.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1893	49,773	1417	28·46	249	176	980	19·68	128	13	..	967	19·43
1894	49,969	1436	28·73	189	132	790	15·81	121	36	..	754	15·09
1895	50,167	1473	29·32	269	183	960	19·13	140	26	..	934	18·61
1896	50,365	1438	28·55	220	153	872	17·31	119	15	..	857	17·01
1897	50,564	1487	29·40	274	184	966	19·1	120	17	..	949	18·76
1898	50,763	1412	27·85	306	216	1124	22·14	164	37	..	1087	21·41
1899	50,963	1479	29·02	251	169	981	19·24	173	72	..	909	17·83
1900	51,165	1396	27·28	277	198	1135	22·18	205	60	..	1075	21·01
1901	51,367	1469	28·60	244	165	950	17·9	194	18	..	932	18·1
1902	51,610	1406	27·24	204	145	893	17·3	185	41	..	852	16·5
Average for Years 1893—1902.	50,670	1441	28·45	248	172	965	18·98	154	33	..	931	18·375
1039	51,851	1426	27·5	173	121·3	960	18·51	244	36	..	924	17·82

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

NOTE.—The deaths included in Column 7 of this Table are the whole of those registered during the year as having actually occurred within the district or division. The deaths included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term “Non-residents” is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term “Residents” is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The “Public institutions” taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums.

Area of District in acres (exclusive of area covered by water)	3,566
Total population at all ages	.. 51,316
Number of inhabited houses	.. 11,821
Average number of persons per house	4·3

} At Census of 1901.

TABLE II.

VITAL STATISTICS OF GREAT YARMOUTH AND OF THE SEPARATE LOCALITIES IN 1903 AND PREVIOUS YEARS.

Year.	The Borough.				Northern District.				Southern District.				Gorleston & Southtown.				Runham Vauxhall.			
	Population esti- mated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
1893	49,773	1,417	967	249	19,880	551	477	96	15,771	453	305	80	13,519	389	185	69	603	24	13	4
1894	49,969	1,436	754	189	19,875	578	363	73	15,740	464	253	63	13,750	377	167	51	604	17	7	2
1895	50,167	1,473	934	269	19,871	572	440	96	15,712	472	324	110	13,979	396	182	56	605	33	14	7
1896	50,365	1,438	857	220	19,866	501	378	91	15,682	473	309	73	14,211	440	178	54	606	24	7	2
1897	50,564	1,487	949	274	19,862	524	427	94	15,650	485	287	83	14,444	455	241	95	608	23	11	2
1898	50,763	1,412	1087	306	19,857	516	595	115	15,619	420	335	84	14,678	458	270	103	609	18	14	4
1899	50,963	1,479	909	251	19,853	491	442	95	15,583	517	328	78	14,917	455	208	76	610	16	3	2
1900	51,165	1,396	1075	277	19,848	486	523	121	15,550	442	298	79	15,156	444	245	74	611	24	9	3
1901	51,367	1,469	932	244	19,814	529	402	98	15,518	463	286	71	15,393	461	232	70	612	16	12	5
1902	51,610	1,406	852	204	19,839	506	359	72	15,491	431	253	63	15,677	451	236	68	613	18	4	1
Averages of Years, 1893-1902.	50,670	1,441	931	248	19,859	525	440	95	15,631	462	297	78	14,571	432	214	71	608	21	9	3
1903	51,851	1,426	924	173	19,835	496	383	62	15,468	431	309	57	15,934	471	227	54	614	28	5	0

NOTE.—Deaths of residents occurring in public institutions beyond the district are included in Sub-columns *c* of this Table, and those of non-residents registered in public institutions in the district excluded. (See note on Table I as to meaning of terms “resident” and “non-resident.”)

NOTE CONCERNING TABLE II.—The figures given in Column C. of Table II. are obtained by allotting the deaths registered during the year to the respective localities according to the previous addresses of the deceased. This gives an accurate return so far as deaths in private houses are in question, but the deaths which occurred in Public Institutions vitiate the results. More than one-ninth of the total deaths (110 in 924) occurred in the Workhouse Infirmary, which is situated in the Northern District; a little less than an eighteenth (49 in 924) occurred in the Hospital, which is in the Southern District; only two residents died in the Gorleston Cottage Hospital, and Runham Vauxhall contains no Institution in which any deaths occurred during the year. It is impossible to distribute all these deaths to their respective localities, as in only ten cases out of 161 is there any definite information as to the locality inhabited by the deceased previous to the fatal illness. The consequence is that the Northern District suffers most, owing to the Workhouse; the Southern District suffers in a less degree, owing to the General Hospital, while Gorleston and Runham Vauxhall reap the entire benefit. In future years it may be possible to refer every death in the General Hospital to the proper locality, as is the case at the Isolation Hospital, but it will not be possible to eliminate the serious error in the statistics of the Northern District until the Local Government Board alter the form of admission into the Workhouse Infirmary.

ANALYSIS OF THE PRINCIPAL CAUSES OF DEATH.

ZYMOTIC DISEASES.

The Zymotic Death-rate comes to 2·5 per thousand of the population. This is a higher rate than that in 1902, but with that exception is the lowest annual rate since 1896 and is 0·2 lower than the average for the past ten years.

The following Table shows the mortality from the different diseases from which the Zymotic Death-rate is calculated:—

A.—DISEASES NOT NOTIFIABLE DURING LIFE.

Measles	...	...	...	12
Whooping Cough	...	...	...	14
Diarrhœa	...	...	...	29

B.—DISEASES OF WHICH ALL KNOWN CASES ARE NOTIFIED.

Smallpox	..	...	...	0
Scarlet Fever		...	...	27
Diphtheria	.	...	...	44
Typhoid Fever		...	...	6

THE NON-NOTIFIABLE ZYMOTIC DISEASES.

The deaths from Measles, Whooping Cough and Diarrhœa were considerably under the average and need no comment.

THE NOTIFIABLE ZYMOTIC DISEASES.

Although the number of deaths from Typhoid Fever was very much below the average, the total number of deaths from this group of diseases was higher, owing to the existence of a mixed epidemic of Diphtheria and Scarlet Fever. The statistical returns of notifiable disease are presented in Table IV. (page 18).

INFLUENZA.

The number of deaths from Influenza was less than it has been in any year since 1896.

PHTHISIS.

The deaths certified as being due to Phthisis number 57, in addition to 35 deaths referring to other Tuberculous Diseases. This mortality, very nearly a ninth of the total number from all other causes, requires some comment. Phthisis is not classed with the Zymotic Diseases, as it is only within the last few years that its infectious character has been generally acknowledged. It is now known that the infection of Phthisis is "caught" in exactly the same manner as is that of Diphtheria, fortunately not with the same facility, but with the important practical difference that Diphtheria is seldom infectious for more than a few weeks after the contraction of the disease, whereas a tuberculous patient may be a source of danger for several years. At present there is no possibility of attempting to deal with this serious cause of mortality as we have no knowledge of the existence of the disease until after death. A system of Notification on the same principle as that adopted in other dangerous infectious diseases has been found of great value in other countries and I hope that it will shortly be adopted in this Borough. The expense of notification has not been found to be as great as one might expect, and the expenses incurred in this connection would be recouped from the diminution in the poverty which so often follows this disabling disease. With the knowledge derived from notification of this disease before death, it will be possible to give instructions which tend to limit the dissemination of the infectious particles and it will also be possible to put the prospect of ultimate cure before a certain proportion of the patients. Anything like isolation of all infectious persons is out of the question owing to the enormous number of patients and to the lengthy period of infectivity, but the educational advantage of a brief stay in a properly managed sanatorium is so considerable that it is well worth consideration.

At present nothing is being done to limit the ravages of the disease, with the exception that disinfection is carried out gratuitously when requested. This amounts to very little, as it is most unusual to get such a request.

In the last four years there have been 184 deaths from Phthisis and 109 deaths from other Tuberculous Diseases. In the same period there have been 209 deaths from Typhoid Fever, Diphtheria and Scarlet Fever combined. During the four years more than £13,000 has been spent on the last group of infectious diseases, while the public expenditure on the prevention of the Tuberculous Diseases would be easily covered by a ten pound note.

At intervals during the last three years, a certain number of phthisical patients have been treated in a tent situated in the grounds of the Union Infirmary. Dr. Collier informs me that the patients were obviously benefited, but the number was comparatively very small, and there are many patients who cannot afford treatment in a private sanatorium, but at the same time are quite unable to accept relief from the Poor-law Administration.

RESPIRATORY DISEASES (excluding Phthisis).

One-hundred-and-twelve deaths were due to Diseases of the Lungs in addition to the deaths from Consumption. This is an average number, taking into consideration the fact that Influenza has not been present in an epidemic form during the year.

OTHER IMPORTANT CAUSES OF DEATH.

Heart Disease accounted for 83 deaths, Cancer for 42 ; 34 were due to Accidents, and 12 were definitely assigned to Alcoholism.

TABLE III.

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1903.

CAUSES OF DEATH.	DEATHS IN OR BELONGING TO WHOLE DISTRICT AT SUBJOINED AGES.							DEATHS IN OR BELONGING TO LOCALITIES (AT ALL AGES)				Total Deaths in Public Institutions in District.
	All ages.	Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Northern.	Southern.	Gorleston & Southtown.	Runham.	
Small-pox ..	—	—	—	—	—	—	—	—	—	—	—	—
Measles ..	12	4	7	1	—	—	—	5	6	1	—	2
Scarlet Fever ..	27	1	15	9	2	—	—	8	12	7	—	22
Whooping-cough ..	14	1	13	—	—	—	—	6	6	2	—	—
Diphtheria and Mem- branous Croup ..	44	1	19	22	1	—	1	14	12	18	—	26
Croup ..	6	3	2	1	—	—	—	—	2	4	—	—
Fever { Typhus ..	—	—	—	—	—	—	—	—	—	—	—	—
{ Enteric ..	6	—	1	1	—	4	—	5	1	2	—	2
{ Other Continued ..	—	—	—	—	—	—	—	—	—	—	—	—
Epidemic Influenza ..	16	—	—	2	—	3	11	9	5	2	—	10
Cholera ..	—	—	—	—	—	—	—	—	—	—	—	—
Plague ..	—	—	—	—	—	—	—	—	—	—	—	—
Diarrhœa (see Notes)	29	22	6	—	—	—	1	5	17	7	—	—
Enteritis (see Notes)	8	4	1	1	—	1	1	5	2	1	—	1
Puerperal fever ..	2	—	—	—	—	2	—	1	—	—	1	—
Erysipelas ..	2	—	—	—	—	2	—	2	—	—	—	—
Other Septic Diseases	19	1	3	4	—	8	3	7	6	6	—	9
Phthisis ..	57	1	1	—	16	37	2	28	16	13	—	12
Other Tubercular Diseases ..	35	11	12	5	—	6	1	19	8	8	—	4
Cancer, Malignant Disease ..	42	—	—	—	1	28	13	13	15	14	—	6
Bronchitis ..	61	12	5	2	1	12	29	27	21	13	—	5
Pneumonia ..	28	4	8	2	—	11	3	12	7	8	1	5
Pleurisy ..	1	—	—	—	—	1	—	—	1	—	—	—
Other Diseases of Respiratory Organs	22	3	8	2	—	7	2	5	12	5	—	5
Alcoholism } Cirrhosis of Liver }	12	—	—	—	—	10	2	5	5	1	1	3
Venereal Diseases ..	2	2	—	—	—	—	—	1	—	1	—	—
Premature Birth ..	38	38	—	—	—	—	—	13	12	13	—	2
Diseases and Acci- dents of Parturi- tion ..	2	—	—	—	—	2	—	1	1	—	—	1
Heart Diseases ..	85	3	1	2	2	34	43	39	28	18	—	22
Accidents ..	34	3	3	1	3	13	11	8	18	8	—	10
Suicides ..	3	—	—	—	—	2	1	2	1	—	—	1
All other causes ..	317	59	11	5	9	79	154	145	95	75	2	96
All causes ..	924	173	116	60	35	262	278	383	309	227	5	244

NOTES.—(a) In this Table all deaths of “Residents” occurring in public institutions, whether within or without the district, are to be included with the other deaths in the columns for the several age groups (columns 2-8). They are also, in columns 9-15, to be included in the deaths in their respective “Localities” according to the previous addresses of the deceased as given by the Registrars. Deaths of “Non-residents” occurring in public institutions in the district are in like manner to be excluded from columns 2-8 and 9-15 of this Table.

(b) See notes on Table I. as to the meaning of “Residents” and “Non-residents,” and as to the “Public Institutions” to be taken into account for the purposes of these Tables. The “Localities” should be the same as those in Tables II. and III.

(c) All deaths occurring in public institutions situated within the district, whether of “Residents” or of “Non-residents,” are, in addition to being dealt with as in note (a), to be entered in the last column of this Table. The total number in this column should equal the figures for the year in column 9, Table I.

(d) The total deaths in the several “Localities” in columns 9-15 of this Table should equal those for the year in the same localities in Table II., sub-columns c. The total deaths at all ages in column 2 of this Table should equal the gross total of columns 9-15, and the figures for the year in column 12 of Table I.

(e) Under the heading of “Diarrhœa” are to be included deaths certified as from diarrhœa, alone or in combination with some other cause of ill-defined nature; and also deaths certified as from

Epidemic enteritis;

Zymotic enteritis;

Epidemic diarrhœa. Summer diarrhœa;

Dysentery and dysenteric diarrhœa;

Choleraic diarrhœa, cholera, cholera nostras

(in the absence of Asiatic cholera).

Under the heading of “Enteritis” are to be included those certified as from Gastro-enteritis, Muco-enteritis, and Gastric catarrh, unless from information obtained by enquiry from the certifying practitioner or otherwise, the Medical Officer of Health should have reason for including such deaths, especially those of infants, under the specific term “Diarrhœa”

Deaths from diarrhœa secondary to some other well-defined disease should be included under the latter.

TABLE IV.

CASES OF INFECTIOUS DISEASES NOTIFIED DURING THE YEAR 1903.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT							TOTAL CASES NOTIFIED IN EACH LOCALITY.				No. OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.			
	At Ages—Years.							Northern District.	Southern District.	Gorleston and Southtown.	Kunham Vauxhall.	Northern District.	Southern District.	Gorleston and Southtown.	Kunham Vauxhall.
	At all Ages.	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.								
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria	316	3	78	177	33	24	1	93	126	98	3	51	107	58	1
Membranous Croup	4	—	2	2	—	—	—	—	1	3	—	—	1	—	—
Erysipelas	92	2	3	4	8	71	4	53	17	22	—	—	—	—	—
Scarlet Fever	408	6	113	245	40	4	—	98	178	132	—	84	153	70	—
Typhus Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever	28	—	2	6	7	13	—	9	11	8	—	—	2	1	—
Relapsing Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Continued Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Fever	4	—	—	—	1	3	—	1	2	—	1	—	—	—	—
Plague	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	852	11	198	434	89	115	5	254	335	263	4	135	263	129	1

THE NOTIFICATIONS OF INFECTIOUS DISEASES.

The Table on page 18 presents an analysis of the notifications received during the year. The incidence of Scarlet Fever and Diphtheria has been heavy and the case-mortality of the former disease has been unusually high. The available details of the cases of Scarlet Fever and Diphtheria do not throw any new light on these diseases. The great majority of the persons attacked were of school age or had obviously contracted the infection from children attending school. Sanitary defects were found in a greater proportion of houses in which there were cases of Diphtheria than in the houses attacked by Scarlet Fever. Tables showing the monthly incidence of the different diseases are given below :—

SCARLET FEVER.

Month.	Total.	Northern District.	Southern District.	Gorleston and Southtown.	No. of Removals to Hospital.
January	34	9	13	12	23
February	66	17	19	30	54
March	49	13	18	18	36
April	44	9	20	15	34
May	25	8	11	6	19
June	51	12	26	13	42
July	35	3	18	14	23
August	30	12	14	4	23
September	21	5	8	8	15
October	18	3	12	3	15
November	18	2	12	4	11
December	17	5	7	5	12
	—	—	—	—	—
Total for year	408	98	178	132	307

DIPHThERIA AND MEMBRANOUS CROUP.

Month.	Total.	Northern District.	Southern District.	Gorleston and Southtown.	Runham Vauxhall.	No. of Removals to Hospital.
January	23	13	9	1	0	13
February	19	7	7	5	0	12
March	29	8	19	2	0	19
April	12	4	7	1	0	7
May	17	4	8	4	1	14
June	34	9	18	7	0	23
July	43	16	15	12	0	26
August	22	9	2	10	1	17
September	24	4	10	10	0	20
October	41	8	4	29	0	29
November	30	4	14	11	1	18
December	26	7	13	6	0	20
	—	—	—	—	—	—
Total for year	320	93	126	98	3	218

TYPHOID FEVER.

Twenty-nine persons were notified as suffering from Typhoid Fever during the year. The continuous annual reduction in this disease is seen in the following table :—

Year.	Number of Cases Notified.	Number of Deaths.
1894	99	11
1895	150	14
1896	143	15
1897	150	19
1898	244	42
1899	131	26
1900	123	12
1901	87	9
1902	38	7
1903	28	6
Average for years	119	16
1894-1903		

The recorded details of the causes of Typhoid Fever are of interest as showing (in five cases) that there is a distinct danger in nursing patients, and (in four cases) the risk that is run by those who persist in eating mussels dredged from the river. No case was traced to infected milk and in only one case was the patient drinking polluted water. Serious sanitary defects were found in an unusually small proportion of the infected houses. In two cases the infection was certainly imported from other districts; these cases are included in the totals, but two cases which were brought into the Port are excluded from this return and are referred to in the Port Sanitary Report.

PUERPERAL FEVER.

Four cases have been notified during the year, two cases terminating fatally.

ERYSIPELAS.

Ninety-two notifications of cases of Erysipelas have been received. None of the cases were removed to the Isolation Hospital, as the disease does not appear to spread in an ordinary household.

THE ISOLATION HOSPITALS.

The Gorleston Hospital, with accommodation for twenty-five cases of Small-pox, has not been occupied during the year. The Isolation Hospital in Estcourt Road, with accommodation for 54 patients suffering from the other infectious diseases, received 531 patients during the twelve months. 307 suffered from Scarlet Fever, 218 from Diphtheria, and 5 from Typhoid Fever. One case of Diphtheria, and two cases of Typhoid Fever were admitted into Hospital from the Port of Great Yarmouth.

DISINFECTION.

The Steam Disinfector is situated in the grounds of the Isolation Hospital ; the following articles were disinfected at the Hospital (excluding articles used in the Establishment) :—

Beds	404	Counterpanes	631
Pillows	1,263	Mattresses	295
Bolsters	374	Clothing	4,917
Slips	1,230	Carpets	149
Sheets	972	Rugs	187
Hangings	105	Cushions	10
Blankets	1,255	Various	859
		<hr/>	
		Total	12,651
		<hr/>	

832 Rooms were disinfected with Formalin vapour.

THE BACTERIOLOGICAL LABORATORY.

The laboratory is also situated in the Hospital Grounds, and was in full working order during the year. The principal subject of investigation appears to have been Diphtheria.

WATER SUPPLY.

Private Water Supplies.—Samples of water from 23 wells have been submitted to analysis during the year.

With one exception all the wells were found to be definitely polluted with sewage, and 17 have been closed.

Public Water Supply.—There is no record of any matter requiring special attention on this subject. A bacteriscopic examination was made by Dr. Eyre in the month of April, 1904 ; for the purpose of reference, the results are included in the present report as under :—

The Bacteriological Laboratories,
Guy's Hospital, S.E.,

May 7th, 1904.

Report on sample of water, labelled No. 1* received here
28th April, per Dr. Beach, M.O.H. Great Yarmouth.

1. A.—Number of living micro-organisms present per cubic
centimetre, and capable of multiplying on gelatine
at 20°C.

22.

- B.—Number of living micro-organisms present per cubic
centimetre, and capable of multiplying on agar at
37°C.

2.

(Ratio of A to B—11 : 1)

- C.—No. of living moulds present per cubic centimetre,
and capable of multiplying on Wort-gelatine, at 20°C.

0.

- 2.—Number of living “microbes of indication” present in
the sample.

- A.—*B. Coli Communis*.

Not detected in 500 cc.

- B.—*B. Enteritidis Sporogenes*.

Not detected in 500 cc.

- C.—*Streptococci*.

Not detected in 500 cc.

*Collected from the Reservoir at Caister.

Report of sample of water, labelled No. 2* received here
April 28th, per Dr. Beach, M.O.H., Great Yarmouth.

1. A.—Number of living micro-organisms present per
cubic centimetre, and capable of multiplying on
gelatine at 20°C.

84.

- B.—Number of living micro-organisms present per cubic
centimetre, and capable of multiplying on agar at
37°C.

40.

(Ratio of A to B—2·1 : 1)

- C.—Number of living moulds present per cubic centi-
metre, and capable of multiplying on Wort-gelatine
at 20°C.

2.

*Taken from Tap in a house in a Row.

2.—Number of living “microbes of indication” present in the sample.

A.—*B. Coli Communis*—

Not detected in 500 cc.

B.—*B. Enteritidis Sporogenes*—

Not detected in 500 cc.

C.—*Streptococci*.

Not detected in 500 cc.

Report on Sample of Water, labelled No. 3* received here 28th April, per Dr. Beach, M.O.H., Great Yarmouth.

1. A.—Number of living micro-organisms present per cubic centimetre, and capable of multiplying on gelatine at 20° C.,

55.

B.—Number of living micro-organisms present per cubic centimetre, and capable of multiplying on agar at 37° C.,

4.

(Ratio of A to B—13 : 1.)

C.—Number of living moulds present per cubic centimetre, and capable of multiplying on Wort-gelatine at 20° C.,

2.

2.—Number of living “microbes of indication” present in the sample.

A.—*B. Coli Communis*—

Not detected in 500 cc.

B.—*B. Enteritidis Sporogenes*—

Not detected in 500 cc.

C.—*Streptococci*—

Not detected in 500 cc.

*Taken from Tap in a house in the High Road, Gorleston.

Remarks :—

The total number of living micro-organisms that can be demonstrated by laboratory methods is small in each of these samples of water; whilst the ratio between those organisms which develop at the temperature of the air, to

those which require a temperature approximating to that of the human body for their growth, is in samples 1 and 3 not less than 10 to 1. In the case of sample 2, although the ratio is roughly 2 to 1, practically all the bacteria observed as growing at the higher temperature, belonged to that species (commonly found in dust, &c.), known as *B. mycoides*, so that the departure of this ratio from that associated with good waters, loses in this sample any significance it might have otherwise possessed.

In none of these three samples, even when utilising such quantities as 500 cc., was it possible to detect the presence of *B. coli*, or other "microbe of indication"—whose presence in small quantities of water is usually regarded as presumptive evidence of sewage contamination.

(Signed),

JNO. EYRE, F.R.S. Edin., M.D., D.P.H., &c.,
Bacteriologist to Guy's Hospital, and the
St. Mary's Children's Hospital, E.
Lecturer on Bacteriology in the Guy's
Medical and Dental Schools, &c.

Report of the Inspector of Nuisances upon the Work of the Sanitary Department during the year 1903.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

I have the honour to submit to you my Ninth Annual Report of the work carried out in the above department during the year 1903. Particulars as to the nature and number of nuisances reported to the Health Committee, and dealt with by Statutory notices issued from the Town Clerk's Department, also works of a similar nature, but dealt with by Preliminary notices sent out from this Office.

I am, Sir,

Yours faithfully,

SAMUEL HASSALL.

REPORT FOR 1903.

During the year 535 Statutory notices have been served, and 598 Preliminary notices, also 448 verbal instructions given to abate the various nuisances which are detailed in the appended Tables. Under Table A will be found a summary of the work accomplished by this department :—

TABLE A.

	No. of Visits.
Special inspections and investigations of complaints	2,406
House to house inspections	313
Visits in connection with infectious diseases	844
Re-inspections to ascertain the progress of Statutory and Preliminary notices ...	5,709
Bakehouses	261
Factories and workshops	327
Dairies, cowsheds, and milkshops ...	126
Common lodging-houses (day-time) ...	25
Do. (night-time)	78
Slaughter-houses and knackers' yards ...	275
Offensive trades	146
Total visits	10,510
Samples of well-water collected and for- warded to Cambridge for analysis ...	23
Samples of food, &c., purchased under the sale of Food and Drugs Acts, and sub- mitted to the Public Analyst at Norwich	100
Rooms disinfected after infectious diseases	832
School notices sent in connection with infectious diseases	1,402
Houses, schools, and workshops to which the smoke, water, or chemical tests have been applied to the drains ...	468

Prosecutions under the sale of Food and			
Drugs Acts	...	...	12
Smoke observations taken	...	...	58

TABLE B.

During the year the following works have been carried out
under Statutory and Preliminary notices :—

Numbers.

- 502 Privies replaced with water-closets.
- 164 New drains laid.
- 242 Drains cleaned and repaired.
- 12 Pan container closets abolished.
- 28 Pedestal closets erected.
- 617 Earthenware gully-traps fixed.
- 201 Flushing cisterns provided to closets.
- 27 Filthy houses cleansed and limewashed.
- 28 Offensive accumulations removed.
- 10 Nuisances abated from overcrowding.
- 20 Animals and poultry removed.
- 2 Cesspools abolished.
- 52 Water-closets repaired.
- 103 New sinks erected.
- 71 Drains intercepted from sewers.
- 95 Rain-water cisterns abolished.
- 57 Sink waste-pipes disconnected.
- 271 Yards and passages concreted.
- 120 Drains ventilated.
- 68 Spouting and fall-pipes provided.
- 2 Cowsheds and slaughter-houses limewashed.
- 18 Bakehouses limewashed.
- 30 Houses provided with Company's water.
- 17 Polluted wells closed.
- 12 Houses made fit for habitation.
- 68 Rain-water pipes disconnected from drains.
- 30 Dilapidations made good.
- 24 New urinals provided.
- 18 Miscellaneous items.

TABLE C.

Showing the localities of sewer gas escapes after drain testing:—

			Numbers.
Into breakfast-rooms, etc.	...	...	1
„ Kitchens and sculleries	...	...	12
„ Basement kitchens and cellars	...	...	6
„ Lobbies and other parts of houses	...	...	4
„ Internal water-closets	...	...	2
„ External „ „	...	...	80
„ Yards and passages	...	...	47
From defective W.C. soil pipes	...	...	8
„ Sink and lavatory waste-pipes	...	...	6
„ Defective ventilating shafts	..	...	14
„ Heads and joints of rain-water pipes	...	...	21
			<hr/>
			199
			<hr/>

DRAIN TESTING.

During the year 49 complaints have been received from householders and others, respecting the condition of the drains and sanitary fittings of houses and other premises. An examination and the smoke test were applied in every instance, and this resulted in the detection of 31 defective drains, etc. The necessary notices were served in the usual course, and in every instance compliance was made, and the necessary works executed. The drains have also been tested in connection with all houses where Typhoid and Diphtheria have occurred.

SALE OF FOOD AND DRUGS ACTS.

The following table shows the number of samples of articles purchased and submitted for analysis, the extent of adulteration, and magisterial proceedings:—

Article.	No. of Smpls.	Result of Analysis.		Extent of Adulteration.	Remarks.
		Gen.	Adult.		
Milk	64	46	18		
"				15 $\frac{3}{4}$ % of added water	Fined 10s. and 10s. costs
"				15% " "	Fined 10s. and 10s. costs
"				2.59% of fat only	Cautioned
"				10 $\frac{1}{2}$ % of added water	Fined 5s. and 10s. costs
"				12% destitute of fat	Fined 5s. and 25s. 6d. costs
"				9 $\frac{1}{2}$ % of added water	Fined 5s. and 10s. costs
"				46% destitute of fat	Fined 10s. and 20s. 6d. costs
"				8% of fat abstracted	Cautioned
"				4% of fat abstracted	Cautioned
"				20% of added water	Fined 20s and 10s. costs
"				7% " "	Cautioned
"				Contained 9 grains of Boric acid	Cautioned
"				25% of added water	Fined 20s and 10s. costs
"				12.75% " "	Fined 10s. and 9s. costs
"				6% destitute of fat	Cautioned
"				16% of added water	Fined 20s. and 10s. costs
"				25% of fat abstracted and 3% of added water	Fined 40s. and 27s. costs
1 Skimmed milk				contained 23.5 % of added water	Fined 20s. and 10s. costs
Butter ..	11	10	1	Contained Boric acid	Cautioned
Demerara Sugar ..	2	2	0		
Bread ..	2	2	0		
Jam ..	1	1	0		
Cheese ..	4	4	0		
Flour ..	1	1	0		
Cornflour ..	1	1	0		
Mustard ..	1	0	1	1.23% of added flour coloured with Tumeric acid	Cautioned
Horehound Beer ..	1	1	0		
Vinegar ..	1	1	0		
Tincture Rhubarb	2	2	0		
Coffee ..	1	0	1	Adulterated with 3.6% of Chicory	No action
Lard ..	1	1	0		
Ice Cream ..	5	3	2	1 artificially coloured, 1 dirty, containing grit, hair and straw	Both vendors were cautioned
Ale ..	1	1	0		
Totals	100	76	24		

SEIZURES OF UNSOUND FOOD.

Five Rabbits, the defendant was fined 30s. and costs ; 28 lbs. Fish, consisting of 3 Hake and 37 Whiting, the defendant was fined 20s., including costs ; 18 Mackerel, the defendant was fined 10s. and costs ; 24 lbs. Walnuts, 1 cwt. 3 qrs. 6 lbs. of Lard and 6 lbs. of Mushrooms.

FACTORY AND WORKSHOPS ACTS, 1901.

In accordance with the Factory and Workshops Acts, 588 visits have been made, the contraventions discovered refer to limewashing and cleansing, ventilation, absence of closet accommodation, and the fixing of notices. These were remedied without any police court proceedings being instituted. The Act requires that a notice shall be kept exhibited in each room, stating the number of persons who may be employed. The Section requires that there shall be 250 feet of cubic space for each person in a workshop during the day, and 400 feet for each person during overtime. These notices are supplied from the Health Department, and can be conveniently hung. This additional work entails a great amount of the Inspector's time, and in a large number of towns an additional Inspector has been appointed to carry out the requirements of the Act.

The number of workshops on the Register is 228, made up as follows :—

Trade.		Number.	Premises with Sanitary defects.
Bake houses	...	82	15
Baking-powder makers	...	3	none
Boat Builders	...	4	2
Blacksmiths	...	4	1
Builders	... ..	3	1
Basket Makers	...	1	none
Carpenters	...	4	2

			Premises with Sanitary defects.
Trade.		Number.	
Coopers ...	...	1	none
Cabinet Makers ...	...	1	1
Cork Cutters ...	...	1	none
Dressmakers ...	...	23	5
Fish Curers ...	...	4	2
Foundry ...	...	1	none
Hairdressers ..	...	1	1
Ice Manufacturers ...	...	1	none
Laundries ...	...	1	none
Milliners ...	...	8	2
Net Makers ...	...	3	1
Outworkers ...	...	56	16
Picture Framers ...	...	1	none
Plumbers ...	...	1	1
Scale Makers ...	...	1	1
Tailors ...	...	20	4
Whitesmiths ...	...	1	none
Shoe Makers ...	...	2	1

Report of the Port Sanitary Inspector.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

I beg to submit to you my second Annual Report upon the inspection of shipping entering this Port during the year 1903.

The number of vessels inspected was as follows :—

Vessels from Foreign Ports	...	264
Vessels coastwise	...	297
		<hr/> 561 <hr/>

These vessels were of the following nationalities :—

British	...	...	311
Norwegian	...	...	83
Swedish	...	...	48
German	...	...	43
Danish	...	...	20
Dutch	...	...	29
Russian	...	...	20
French	...	...	7
			<hr/>
			561
			<hr/>

Of these vessels, 295 were steamers and 266 were sailing vessels.

The sanitary conditions were found satisfactory on board 517 of the above vessels, and the following list shows the nature of defects on board the remaining 44 vessels :—

Dirty forecastles	...	27
Forecastles requiring lime-		
washing	...	5
Dirty bedding	...	3
Defects in ventilation	...	8
Foul water-casks or tanks	...	1
Leakages in foredeck	...	2
Filthy w.c.'s	...	12
Foul beef casks	...	5
Unwholesome meat (12 pieces)		1
Foul ships' holds	...	1
		<hr/>
Total number of defects	...	65
		<hr/>

These defects necessitated re-inspections in about 60 cases.

BILGE PUMPING FROM FISHING VESSELS.—Five vessels were reported for creating this offence, and in one case legal proceedings were instituted against the skipper, who was fined 5s. and costs.

1903.

SICKNESS.

April 22.—Fourth hand on board the mission smack “Alice Fisher” was suffering from Influenza.

May 23.—Mate of the smack “Charles and Thomas,” suffering from Diphtheria. He was removed to the Isolation Hospital, and the vessel and all bedding was thoroughly disinfected.

Oct. 3.—Two sailors on board “H.M.S. Prince George,” anchored in the Roads, were suffering from Enteric Fever. They were removed to the Isolation Hospital, and the bedding, &c., was thoroughly disinfected.

Oct. 13.—Mate of the German schooner “Dolphin” was suffering from Pneumonia. He was removed to the Gorleston Cottage Hospital.

The collector of H.M. Customs kindly furnishes the following information :—

No. of vessels arriving in the Port.				Gross Tonnage.				No. of Crews.	
FOREIGN.		COASTWISE.		FOREIGN.		COASTWISE.		Foreign.	British.
Sail.	Steam.	Sail.	Steam.	Sail.	Steam.	Sail.	Steam.		
274	167	403	783	31,262	56,943	37,562	107,947	2,577	5,999

Report of the Fish Inspector for the year 1903.

The following is a list of unsound fish seized on the Fish Wharf during the year, and destroyed after being formally surrendered or by a Magistrate's order :—

			Tons.	Cwts.	Qrs.
1st January	1 large Skate ...	...		
24th „	1 box Kippers	...			
11th February	1 bag Winkles	...			2
2nd March	1 trunk Whittings	...			3
1st April	2 bags Winkles	...		1	0
23rd May	2 trunks Gurnards	...		1	2
26th „	1 trunk Whittings	...			3
27th „	3 trunks Whittings	...		2	1
1st June	16 boxes Kippers	...		2	0
11 „	11 large Cod Fish	...		1	3
1st July	2 trunks Mackerel	...		1	2
11th „	3 boxes Smoked Haddocks				
„ „	3 trunks Mackerel	...		2	1
13th „	7 „ „	...		5	1
21st „	29 boxes Smoked Haddocks			2	0
11th August	1 trunk Mackerel	...			3
14th „	1 „ Whiting	...			3
„ „	1 swill Mackerel	..			2
29th „	6 boxes Kippers	...			1
„ „	1 bag Shrimps	...			2
„ „	2 trunks Whittings and Haddocks	...		1	2
31st „	1 cask Shrimps	...			2
4th September	9 swills Herrings	...		18	0
5th „	$\frac{1}{2}$ last „	...	1	0	0
21st „	3000 „	...		12	0
„ „	2 swills Mackerel	...		4	0
22nd „	2 „ „	...		4	0
24th „	$\frac{1}{2}$ last Herrings	...	1	0	0
27th „	3000 „	...		12	0

					Tons	Cwts.	Qrs.
28th	„	4 kits	Herrings	...		8	0
30th	„	4 swills	„	...		8	0
2nd October		17 swills	Herrings				
		(3 seizures)		...	1	14	0
3rd	„	60 swills	Herrings				
		(7 seizures)		...	6	0	0
10th	„	3 swills	Herrings	...		6	0
17th	„	2 „	„	...		4	0
19th	„	1 „	„	...		2	0
23rd	„	11 crans	„	...	1	2	0
26th	„	1 swill	„	...		2	0
5th November		14½ crans	„	...	2	18	0
7th	„	38 swills	„	...	3	16	0
„	„	7 kits	„	...		14	0
9th	„	26 swills	„	...	2	12	0
10th	„	36 „	„	...	3	12	0
„	„	23 kits	„	..	2	6	0
12th	„	1 box	„	...		2	0
15th	„	3 swills	„	...		6	0
Total estimated weight of fish seized and					-----		
destroyed		...	...	...	32	9	3

Report of the Inspector under the Canal Boats Act.

The vessels which are classed as Canal Boats within this district are called "Norfolk Wherries," and are of a type only met in the waterways of Norfolk and Suffolk.

During the year I made 159 inspections of these vessels, and it is satisfactory to say that the only sanitary defect I discovered was one where a cabin required re-painting.

The nature of other infringements of the Act was as follows :—

Non-registration	...	...	22
Masters without Certificates	...	...	17
Boats not properly marked	...	...	7

The total number of vessels now registered under the Canal Boats Act by this Authority is 55, and a large number of wherries, lighters and steam barges are now registering under the Merchant Shipping Acts ; these are also inspected under similar conditions to those registered under the Canal Boats Act.

No cases of sickness have been discovered on board these vessels, nor has any notification of Infectious Disease been received during the year.

I am pleased to say that I have always found the men working the local river craft very obliging, and the endeavours they make to maintain their vessels in sanitary condition are exceedingly creditable.

I am, Sir,

Yours faithfully,

ALFRED WHARFE,

Canal Boats Inspector.